Survey taker number: 09	9-1
am working on this project as a part of my studies. boating activities in the Delta and to measure any cl during construction of the proposed Twin Tunnel Pr	roject, sometimes called the BDCP or California rted in aggregate. Can you take about fifteen minutes
1. Do you own a boat or do you rent a houseboat of Own: Yes No	or other type of boat to go boating?
If No to both rent and own then end survey.	
2. Which best describes your boat or boats (select	all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat E. Kayak/Canoe/Other non-motorized boat M. Other:	
3. Approximately how many times per year do you A. I do not go boating in the Delta.	u visit the Delta for recreational boating?
B.) 1–5	
C. 6–10	
D. 11–15 E. 15–20	
F. More than 20	
If Answer to 3 is A, then end survey.	
<ul> <li>4. What recreational boating activities do you usual.</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> </ul>	ally undertake (select all that apply)?
<ul><li>E. Visiting waterside bars and restaurants</li><li>F. Hunting</li></ul>	
G. Other	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer WA Rent
	A. Away from the Delta in dry storage or at my residence.
	<ul><li>B. Away from the Delta in a slip in the water</li><li>C. In the Delta in dry storage or at my residence out of the water</li></ul>
	D. In the Delta in a slip in the water
	E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season? MARAWAY from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas  P Yes, Food and beverages  Yes, bait or fishing supplies  Yes, other items
	D Yes, other items
	E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Paradise Manine
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5 mph speed zones before reaching fast	X		
Water Nearby waterside bars and restaurants	-		
Turbid/muddy water			7
Heavy barge/boat traffic			X
Excellent birdwatching	X		
Loud noise (traffic, construction, etc.)			X
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall (C.) Significant reduction in frequency of boating activity in the Delta overall
    - D. Increase in frequency of boating activity in the Delta overall.
    - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.

    D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

By I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
    - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.

  I would be much less likely to visit the Clarksburg area.
- F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- I would be somewhat less likely to visit the Clarksburg Marina.

  I would be much less likely to visit the Clarksburg Marina.
- F. I am sure I would not visit the Clarksburg Marina during the construction project.
- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company. I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
    - It is somewhat unlikely that I will use the area.
    - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: PARIS DANIELL

Address: 690 Rose DC.

Phone: 70) 333 2045 Email: PARISDANIELL @ GMAIL COM

Survey taker number: $09$ $U-Z$
Hi, my name is
Own: Yes' No Rent: Yes If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser  B. Wakeboard boat  C. Ski boat  D. Runabout  E. Pontoon boat  F. House boat  G. Day boat  H. Jet Boat  I. Big Cat  J. Performance boat  K. Sail boat  K. Sail boat  K. Sail boat  J. Kayak/Canoe/Other non-motorized boat  Other: BUSS Boot
<ol> <li>Approximately how many times per year do you visit the Delta for recreational boating?</li> <li>A. I do not go boating in the Delta.</li> </ol>
B. 1–5 C. 6–10
D. 11–15 E. 15–20
F. More than 20
If Answer to 3 is A, then end survey.
4. What recreational boating activities do you usually undertake (select all that apply)?  A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants F. Hunting C. Other
G. Other

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
ĺ	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) Deta Manne  2) B & W
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5 mph speed zones before reaching fast water			$\rtimes$
Nearby waterside bars and restaurants		X	×
Turbid/muddy water			
Heavy barge/boat traffic	A CONTRACTOR OF THE PROPERTY O		×
Excellent birdwatching		X	
Loud noise (traffic, construction, etc.)	Ø.		X
High winds	•		义

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described aboye

No change in frequency of boating activity in the Delta overall A. No change in frequency of boating activity in the Delta overall

B. Some reduction in frequency of boating activity in the Delta overall

- C. Significant reduction in frequency of boating activity in the Delta overall
- D. Increase in frequency of boating activity in the Delta overall.
- E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?

A. No change in location of my boating activity.

- B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
- C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
- D. I would often avoid the Delta by switching to boat at locations other than the Delta.
- E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions. I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

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I have no reaction one way or the other.

I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

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To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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Construction trucks will also use other roadways in various locations throughout the Delta.

18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?

A.) Construction vehicles and bridge openings will not affect my use of the Delta for recreation.

- B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat
- C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
- D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
- E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
- F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. Α.
- I would be much more likely to visit the Clarksburg area. В.
  - The construction would not affect the likelihood of me visiting the Clarksburg area.
    - I would be somewhat less likely to visit the Clarksburg area.
- I would be much less likely to visit the Clarksburg area.
- I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C.) The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F. I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company. I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
  No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
  - It is somewhat unlikely that I will use the area.

    It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: JOHN KNEIBEL

Address: 107 Merlot Way

Phone: 707-374-5090 Email: Jolkney betradow, com

Survey	taker number:	07		4-4	
am woll boating during WaterF with m First, I  1. Do Own: Rent:	rking on this project activities in the Del construction of the prix project. Your rese to complete our su would like to get so	as a part of my studion to measure and to measure and to measure and proposed Twin Tunner, ponses will only be a rivey? The general information of the proposed Twin and the proposed Two No	student at the Universites. The purpose of this sy changes in recreation all Project, sometimes cal reported in aggregate. Con about your recreation at or other type of boat	survey is to analy and visitation tha led the BDCP or an you take about all boating activites.	ze recreational t might occur California t fifteen minutes
2. Wł	nich best describes y	our boat or boats (sel	ect all that apply)?		
B. C. D. E. F. G. H. I. J. K. L. M. A. B. C. D. E. F. D. E. F. C.	Other: MShik	any times per year do in the Delta.	t you visit the Delta for 1	ecreational boati	ng?
11.	Answer to 3 is A, th	en end survey.			
B. C. D. E. F.	Fishing Wake boarding Water Skiing Cruising	ing activities do you bars and restaurants	usually undertake (selec	t all that apply)?	

5.	Which of the following recreational activities	ng areas of the Delta best describes the areas of the Delta that you use for these (circle all that apply)?
/	B North Delta aroun C. South Delta aroun D. Central Delta arou	nd Korth's Pirate's Lair, Bethel Island, Franks Tract area I, Walnut Grove, Locke area. till Cove area
6.	Where do you keep y	our boat during the summer
(	B. Away from the IC. In the Delta in do D. In the Delta in a E. I have a home in	the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or	B, what is the zip code where you keep your boat during summer?
8. ( 9.	A. Away from the IB Away from the IC. In the Delta in dD. In the Delta in aE. I have a home in	Your boat in the off season? Delta in a slip in the water Delta in dry storage or at my residence ry storage or at my residence out of the water slip in the water the Delta with an attached dock where I keep my boat  A or B, what is the zip code where you keep your boat during the off season?
	When you visit the I	Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, Delta marinas? Circle all that apply.  Reverages  ing supplies
1	1. If answer to 10 is A	B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas:	1)
	,	2)
		3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5 mph speed zones before reaching fast water	×		
Nearby waterside bars and restaurants		Æ	×
Turbid/muddy water	X		
Heavy barge/boat traffic			X
Excellent birdwatching		<u> </u>	
Loud noise (traffic, construction, etc.)		,	<u> </u>
High winds			L_X

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

(Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described
  - A. No change in frequency of boating activity in the Delta overall B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the locations of your boating activity?
  - (A) No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?



This is not a concern for me.

I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions. C.

I would be somewhat likely to boat more often in areas where barges create muddy conditions. D.

I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?

I have no reaction one way or the other. A.

I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.

I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.

I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.



بين المعنى المع impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?

A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.

- B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
- C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
- D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
- E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often
- F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- (E) No
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:(	9	9-5	
boating activities in the Delta a during construction of the prop WaterFix project. Your respon with me to complete our surve	and to measure any changes in sosed Twin Tunnel Project, s ases will only be reported in a y?	the University of California at Santa Cruz. In pose of this survey is to analyze recreations in recreation and visitation that might occur cometimes called the BDCP or California aggregate. Can you take about fifteen minuour recreational boating activities.	
1. Do you own a boat or do y Own: Yes Rent: Yes If No to both rent and own the	No No	type of boat to go boating?	
2. Which best describes your	boat or boats (select all that	apply)?	
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other no			
3. Approximately how many A. I do not go boating in th B. 1–5 C. 6–10 D. 11–15 E. 15–20 F. More than 20		he Delta for recreational boating?	
If Answer to 3 is A, then	end survey.		
A Fishing B Wake boarding Water Skiing D Cruising E. Visiting waterside bars F. Hunting		dertake (select all that apply)?	
G. Other			

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Ves, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) Eddo S
	2)
	3)

Condition	More Likely	No Change	Less Likely_
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast		X	
water			
Nearby waterside bars			
and restaurants			8.00
Turbid/muddy water			<u> </u>
Heavy barge/boat			
traffic			
Excellent			
birdwatching			10
Loud noise (traffic,			X
construction, etc.)			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



Νo

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.

    E. will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
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The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

(C7) I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
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- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
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This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
  - I would be somewhat less likely to visit the Clarksburg area.
    - I would be much less likely to visit the Clarksburg area.
    - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- I would be somewhat less likely to visit the Hood Supply Company.

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Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D Yes more than 20 times
  E. No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: Charyl Wartucci
Address:
Phone: Clayton, CA 94517

cheryl. martucci @ gmail.com Email:

Survey taker number: 09	4	1	le
Hi, my name is I am a sam working on this project as a part of my studies boating activities in the Delta and to measure any during construction of the proposed Twin Tunnel WaterFix project. Your responses will only be rewith me to complete our survey?  First, I would like to get some general information	changes in recreation and visit Project, sometimes called the leported in aggregate. Can you to	tation th BDCP c take abo	nat might occur or California out fifteen minutes
1. Do you own a boat or do you rent a houseboat Own: Yes No No No If No to both rent and own then end survey.	nt or other type of boat to go bo	ating?	
2. Which best describes your boat or boats (sele	ect all that apply)?		
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:			
<ul> <li>3. Approximately how many times per year do A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>	you visit the Delta for recreation	onal boa	tting?
If Answer to 3 is A, then end survey.			
<ul> <li>4. What recreational boating activities do you use.</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> <li>E. Visiting waterside bars and restaurants</li> <li>F. Hunting</li> </ul>	isually undertake (select all tha	t apply)	?
G. Other			

5.	ing areas of the Delta best describes the areas of the Delta that you use for these s (circle all that apply)?	
	B North Delta arou (C.South Delta arou (D.)Central Delta aro	
6.	Where do you keep	your boat during the summer
(	B. Away from the C. In the Delta in d. D. In the Delta in a	Delta in dry storage or at my residence. Delta in a slip in the water ry storage or at my residence out of the water slip in the water the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A c	r B, what is the zip code where you keep your boat during summer?
8. (	A. Away from the B Away from the C. In the Delta in a D. In the Delta in a	your boat in the off season?  Delta in a slip in the water  Delta in dry storage or at my residence  ry storage or at my residence out of the water  slip in the water  the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is	A or B, what is the zip code where you keep your boat during the off season?
	. When you visit the lor other items from A Yes, Gas B Yes, Food and bC. Yes, bait or fish D. Yes, other items	ing supplies
11		B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas:	1) Facter's Bighorn 2)
		3)
		J

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast			
water			
Nearby waterside bars		$\perp$	
and restaurants			
Turbid/muddy water		<u> </u>	1
Heavy barge/boat			
traffic			
Excellent		$\times$	
birdwatching			
Loud noise (traffic,			$\perp$
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

The state of the s	
(Yes)	No
( IES.)	110

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"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.

    Delta by switching to boat at locations other than the Delta.
    - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

(C) I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.

E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
    - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.

I am sure I would not visit the Clarksburg Marina during the construction project.

- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- Yes 11–20 times
  Yes more than 20 times
- E. No
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- (i) It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Surve	taker number: 09	
am we boating during Water	I am a student at the University of California at Santa Cruz. I king on this project as a part of my studies. The purpose of this survey is to analyze recreationa activities in the Delta and to measure any changes in recreation and visitation that might occur construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California ix project. Your responses will only be reported in aggregate. Can you take about fifteen minute to complete our survey?  would like to get some general information about your recreational boating activities.	•
Own: Rent:	you-own a boat or do you rent a houseboat or other type of boat to go boating?  Yes No Yes No both rent and own then end survey.	
2. V	ich best describes your boat or boats (select all that apply)?	
T E F C H I I J N	Cabin cruiser Wakeboard boat Ski boat Runabout Pontoon boat House boat Day boat Jet Boat Big Cat Performance boat Sail boat Kayak/Canoe/Other non-motorized boat Other:	
<i>A</i> H	proximately how many times per year do you visit the Delta for recreational boating?  I do not go boating in the Delta.  1-5 6-10 11-15 15-20 More than 20	
)	Answer to 3 is A, then end survey.	
4.	hat recreational boating activities do you usually undertake (select all that apply)? Fishing Wake boarding Water Skiing Cruising Visiting waterside bars and restaurants Hunting	

G. Other \_\_\_\_\_

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
( k	West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
(	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) B EN
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			a. Company
mph speed zones			
before reaching fast			
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water	,		
Heavy barge/boat			
traffic			
Excellent			
birdwatching			
Loud noise (traffic,			×
construction, etc.)			_
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.

    D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- This is not a concern for me. A.

I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?

I have no reaction one way or the other. A.

- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F. I am sure I would not visit the Clarksburg Marina during the construction project.
- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
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- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- Yes 11–20 times
  Yes more than 20 times
  No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
    - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

or

Name: Ron McKaslin

Address: 4255 Lelia Dr.

Phone: 916 278 9689

Email: bobc+1@gwall.can

Survey taker number: 09	9-8
Hi, my name is I am a student a am working on this project as a part of my studies. The poating activities in the Delta and to measure any change during construction of the proposed Twin Tunnel Project WaterFix project. Your responses will only be reported i with me to complete our survey? First, I would like to get some general information about	, sometimes called the BDCP or California n aggregate. Can you take about fifteen minutes
1. Do you own a boat or do you rent a houseboat or oth Own:  No  Rent: Yes  If No to both rent and own then end survey.	er type of boat to go boating?
2. Which best describes your boat or boats (select all the	at apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other: All of the above	
<ul><li>3. Approximately how many times per year do you vis</li><li>A. I do not go boating in the Delta.</li><li>B. 1-5</li></ul>	it the Delta for recreational boating?
C. 6-10 D. 11-15 E. 15-20 F. More than 20	
If Answer to 3 is A, then end survey.	
4. What recreational boating activities do you usually A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants F. Hunting	undertake (select all that apply)?
G. Other	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
ĺ	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
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9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1)
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			
mph speed zones			\ \times \
before reaching fast			
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water			<u> </u>
Heavy barge/boat		A.	
traffic		10	
Excellent			
birdwatching			
Loud noise (traffic,			$\times$
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

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There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall. (E.) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - (A.) No change in location of my boating activity.
    - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
    - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
    - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
    - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

(C) I would be very likely to avoid areas where barges create muddy conditions.

- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
- E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- I would be much less likely to visit the Clarksburg area.

  I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- (F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- Yes more than 20 times
  - E. No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
    - It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info: Name: StepHENM. PENER

Address:

Phone: 707-299-3643 Email: Stebw7720Swall-Com.

Survey t	aker number:_	09		9-9	
boating a during co WaterFix with me t	ctivities in the E instruction of the project. Your i o complete our	Delta and to measure a e proposed Twin Tun responses will only be survey?	any changes in recreation nel Project, sometimes e reported in aggregate.	rsity of California at Santa Cru nis survey is to analyze recreati on and visitation that might occ called the BDCP or California Can you take about fifteen m ional boating activities.	cur ı
Own: (\) Rent: Y	<u>es</u> ) es	r do you rent a house No No wn then end survey	boat or other type of bo	at to go boating?	
2. Whic	h best describes	your boat or boats (s	elect all that apply)?		
B. V. C. S. D. F. F. H. J. F. K. S. L. K. M. O	Other:	her non-motorized bo		or recreational boating?	
A. I c B. 1 C. 6 D. 1 E. 1	lo not go boatin –5		io you visit ille Della ic	n recreational boating:	
If Ar	iswer to 3 is A,	then end survey.			
A.) F B. \ C. \ D. (C E. \	ishing Vake boarding Vater Skiing Cruising Visiting watersid	ating activities do yo le bars and restaurant	u usually undertake (sel	lect all that apply)?	
F. H G. C	Hunting Other	_			

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	West Delta around Antioch Suisun Marsh area  North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
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7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) 62 W
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	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	<u> </u>		
Long or frequent 5 mph speed zones	,		
before reaching fast water			
Nearby waterside bars and restaurants			×
Turbid/muddy water		X	
Heavy barge/boat traffic			×
Excellent birdwatching	×		
Loud noise (traffic, construction, etc.)			X
High winds			X

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

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- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
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- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- (Ē.) No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
  - It is somewhat unlikely that I will use the area.
- D' It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: STEPHEN ASKEY

Address: 230 L CALHOUN WAN

STOCKTON CA 9520

Phone: (209) ALQ-4895 Email: SASCET & BT, NET

Survey taker number: 09	9-	10
Hi, my name is I am a student at the University of California a am working on this project as a part of my studies. The purpose of this survey is to analyboating activities in the Delta and to measure any changes in recreation and visitation the during construction of the proposed Twin Tunnel Project, sometimes called the BDCP of WaterFix project. Your responses will only be reported in aggregate. Can you take about the me to complete our survey?  First, I would like to get some general information about your recreational boating activity.  1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Yes No  Rent: Yes No  If No to both rent and own then end survey.	yze recr at might r Califoi ut fifteei	eational coccur rnia
2. Which best describes your boat or boats (select all that apply)?		
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat I. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:  3. Approximately how many times per year do you visit the Delta for recreational boat A. I do not go boating in the Delta.	ing?	
B. 1–5 C. 6–10		
D. 11–15 E. 15–20 F. More than 20		
If Answer to 3 is A, then end survey.		
4. What recreational boating activities do you usually undertake (select all that apply)?  A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants F. Hunting		
G. Other Sallivi		

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area  B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area  C. South Delta around Discovery Bay area  D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area  E. Clarksburg, Hood, Walnut Grove, Locke area.  F. Stockton, Windmill Cove area  G. Other
6.	Where do you keep your boat during the summer
!	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
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9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Hildren Harber  2) Petru
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing		X	
Long or frequent 5			
mph speed zones			
before reaching fast			
water		/	
Nearby waterside bars			
and restaurants			
Turbid/muddy water		<u> </u>	
Heavy barge/boat			
traffic		<u> </u>	
Excellent			
birdwatching	<u> </u>		
Loud noise (traffic,			$\mathbf{X}$
construction, etc.)			/ >
High winds		***************************************	<u> </u>

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
- A. No change in location of my boating activity.
  - B I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.

E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E.) Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.

    E. Construction vehicles and bridge openings will cause me to ston using the Delta for recreation
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
  - I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
- F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- I would be somewhat less likely to visit the Clarksburg Marina.

  I would be much less likely to visit the Clarksburg Marina.
  - I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- I would be somewhat less likely to visit the Hood Supply Company.

  I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- Yes 11–20 times
  Yes more than 20 times
  - Ē. No
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
- It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey i there are changes to the proposed project later?	f
Prefer not to give contact info: or	
Name:	
Address:	
Phone:	
Email:	

Survey taker number:	09	9-	
boating activities in the Deliduring construction of the p WaterFix project. Your respect with me to complete our sur	ta and to measure an roposed Twin Tunne ponses will only be i vey?	a student at the University of California at Sa es. The purpose of this survey is to analyze by changes in recreation and visitation that med Project, sometimes called the BDCP or Ca reported in aggregate. Can you take about for about your recreational boating activities	night occur alifornia ifteen minutes
Do you own a boat or d Own: Yes Rent: Yes If No to both rent and own	No No	oat or other type of boat to go boating?	
2. Which best describes yo	our boat or boats (se	lect all that apply)?	
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Othe M. Other:			
3. Approximately how material A. I do not go boating in B. 1–5 C. 6–10 D. 11–15 E. 15–20 F. More than 20	my times per year do n the Delta.	o you visit the Delta for recreational boating	?
If Answer to 3 is A, th	en end survey.		
Fishing  B Wake boarding  C. Water Skiing  D. Cruising	ing activities do you bars and restaurants	usually undertake (select all that apply)?	
G. Other			

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>In the Delta in dry storage or at my residence out of the water</li> <li>In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
(	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) Delta Warre
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast			
water			
Nearby waterside bars		1	
and restaurants			
Turbid/muddy water			X
Heavy barge/boat			
traffic			
Excellent			
birdwatching		<u> </u>	
Loud noise (traffic,			
construction, etc.)			
High winds		<u> </u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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  - D. Increase in frequency of boating activity in the Delta overall.
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- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?

  - No change in location of my boating activity.

    B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
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The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions. I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

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- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.



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  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
- Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- I would be somewhat less likely to visit the Clarksburg area.

  I would be much less likely to visit the Clarksburg area.
  - F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- I would be somewhat less likely to visit the Clarksburg Marina.

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  - D. I would be somewhat less likely to visit the Hood Supply Company.
    - I would be much less likely to visit the Hood Supply Company.
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Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

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- A. Yes 1–5 times.
- B. Yes 6–10 times
  Yes 11–20 times
  - D. Yes more than 20 times
  - E. No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
- (D.) It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

G. Other \_\_\_\_\_

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A West Delta around Antioch Suisun Marsh area B North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other (a Simple Silver)
6.	Where do you keep your boat during the summer
(	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
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11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) We row G
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	<b>X</b>		
Long or frequent 5			
mph speed zones		X	
before reaching fast			
water			
Nearby waterside bars	\ X		
and restaurants	/		
Turbid/muddy water			
Heavy barge/boat			
traffic			
Excellent		$\searrow$	
birdwatching			X
Loud noise (traffic,			
construction, etc.)		<del>                                     </del>	
High winds			1

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



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  - C. Significant reduction in frequency of boating activity in the Delta overall
  - Increase in frequency of boating activity in the Delta overall.

    (E!) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.

    D. I would often avoid the Delta by switching to boat at locations other than the Delta.
    - I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.

I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?

I have no reaction one way or the other. A.

- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

~<del>T</del>-

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To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
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Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
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- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- I would be much less likely to visit the Clarksburg area.
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- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
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- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
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- Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
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- C. It is somewhat unlikely that I will use the area.
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Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

number:	09		9-13
n this project ies in the De ction of the p ect. Your res aplete our su	as a part of my s lta and to measur proposed Twin To sponses will only rvey?	tudies. The purpose of e any changes in recre unnel Project, someting be reported in aggreg	of this survey is to analyze recreational cation and visitation that might occur nes called the BDCP or California ate. Can you take about fifteen minutes
	No No		f boat to go boating?
t describes y	our boat or boats	(select all that apply)	?
ooard boat at out on boat boat oat at at mance boat oat /Canoe/Othe	_		a for recreational boating?
		if do you visit the Delt	a for footouronal coating.
han 20			
to 3 is A, th	en end survey.		
g boarding Skiing 1g g waterside	, ·		(select all that apply)?
	a this project ies in the Dection of the pect. Your resultive to get so an a boat or or a boat or or a boat or or courser board boat out on boat boat out on boat boat out on the pect. Your resultive to a to at a boat or or courser board boat out on boat boat out on boat boat out on boat boat out on boat boat out out out on boat boat out out out out out out out out out ou	s	I am a student at the Un this project as a part of my studies. The purpose of ties in the Delta and to measure any changes in recre tion of the proposed Twin Tunnel Project, sometinet. Your responses will only be reported in aggreg tiplete our survey? Tike to get some general information about your recre to a boat or do you rent a houseboat or other type or No No No rent and own then end survey.  It describes your boat or boats (select all that apply)  cruiser to boat to bo

areas of the Delta best describes the areas of the Delta that you use for these ircle all that apply)?
ntioch Suisun Marsh area Rio Vista, Walnut Grove, Steamboat Slough area Discovery Bay area Korth's Pirate's Lair, Bethel Island, Franks Tract area Walnut Grove, Locke area. Cove area
r boat during the summer
ta in dry storage or at my residence. ta in a slip in the water storage or at my residence out of the water p in the water e Delta with an attached dock where I keep my boat
Ita in a slip in the water  Ita in dry storage or at my residence  storage or at my residence out of the water  ip in the water  ne Delta with an attached dock where I keep my boat
or B, what is the zip code where you keep your boat during the off season?
Ita, do you make purchases of gas, food and beverages, bait or fishing supplies, elta marinas? Circle all that apply.  Verages g supplies
Rio Vista Marina or marinas do you most often make purchases at?  Oxbo  Lighthause
ntioch Suisun Marsh area  Lio Vista, Walnut Grove, Steamboat Slough area Discovery Bay area Korth's Pirate's Lair, Bethel Island, Franks Tract area Walnut Grove, Locke area. Cove area  ——————————————————————————————————

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones		X	
before reaching fast		/	
water			
Nearby waterside bars			
and restaurants			<u></u>
Turbid/muddy water			<u>X</u>
Heavy barge/boat		<b>√</b>	
traffic		/\	
Excellent	Į Ž		
birdwatching	/ \		
Loud noise (traffic,			<b>V</b>
construction, etc.)			
High winds		<u> </u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

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    - It is somewhat unlikely that I will use the area.

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Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

or

Name: DXVE SPFTZ

Address: 8585 SANDSTONE CT GRANTTE BAY 95746

(916) 296-3574 Phone:

dandm spitze gmail Rom Email:

Survey taker number:_	09		9-14	
boating activities in the I during construction of th WaterFix project. Your with me to complete our	Delta and to measure a be proposed Twin Tun- responses will only be survey?	any changes in recreation a nel Project, sometimes call	n you take about fifteen min	r
1. Do you-own a boat of Own: Yes Rent: Yes If No to both rent and of	No No	boat or other type of boat to	o go boating?	
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Of M. Other:	s your boat or boats (s  at ther non-motorized bo  many times per year o	elect all that apply)?	ecreational boating?	
If Answer to 3 is A,	then end survey.			
A. Fishing B. Wake boarding C. Water Skiing D. Cruising	oating activities do you	u usually undertake (select	all that apply)?	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
1	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) + Colors
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast			`
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water			×
Heavy barge/boat			$\vee$
traffic			
Excellent			
birdwatching		/ \	
Loud noise (traffic,			\ \ \ \ \
construction, etc.)			
High winds			

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
    - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.

    I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- 1 am sure I would not visit the Clarksburg Marina during the construction project.
  - 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
  - A. I would be somewhat more likely to visit the Hood Supply Company.
  - B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- (F.) I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A.) Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to	give contact	info:
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Name: Jessica Crowley

221 Bruning Ave. Pio Vista CA 94571

Phone: 443.915.1905

Email:

Crowley. jesse yahoo. com

Survey taker number:_	09		9-15
am working on this proje boating activities in the I during construction of the WaterFix project. Your with me to complete our	ect as a part of my studion  Delta and to measure and the proposed Twin Tunner  responses will only be a survey?	estudent at the University of Califies. The purpose of this survey is to your changes in recreation and visitated Project, sometimes called the Blueported in aggregate. Can you taken about your recreational boating	to analyze recreational tion that might occur DCP or California ke about fifteen minutes
1. Do you own a boat o Own: Yes Rent: Yes If No to both rent and o	No (Nd)	oat or other type of boat to go boat	ing?
2. Which best describes	s your boat or boats (se	lect all that apply)?	
M. Other:	nt ther non-motorized boa		
3. Approximately how A. I do not go boatin B. 1-5	many times per year dong in the Delta.	you visit the Delta for recreation	al boating?
$\binom{6}{D}$ $\binom{6-10}{11-15}$			
E. 15-20			
F. More than 20  If Answer to 3 is A	, then end survey.		
A) Fishing B. Wake boarding C. Water Skiing D. Cruising	pating activities do you de bars and restaurants	usually undertake (select all that a	apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	No. When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
1	1. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Sally Beach
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast			
water			
Nearby waterside bars			
and restaurants			Y
Turbid/muddy water			<del>\</del>
Heavy barge/boat			X
traffic			/\
Excellent		X	
birdwatching		/	
Loud noise (traffic,			
construction, etc.)		<del>                                     </del>	X
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B Some reduction in frequency of boating activity in the Delta overall Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. A.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

T Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
    - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E I would be much less likely to visit the Clarksburg Marina.

  I am sure I would not visit the Clarksburg Marina during the construction project.
  - The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
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  - D. I would be somewhat less likely to visit the Hood Supply Company.
    - I would be much less likely to visit the Hood Supply Company.
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Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- Yes 6–10 times Yes 11–20 times
  - D. Yes more than 20 times
  - E. No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
    - It is very unlikely that I will use the area.
      - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

or

Name: PP, CPE//

Address:

Phone:

Email: DAU/4 DLOE/h@ Lot. Cary

Survey taker number:	67	9-14
am working on this project boating activities in the D during construction of the WaterFix project. Your re- with me to complete our s	et as a part of my stu- letta and to measure proposed Twin Tun- esponses will only b	n a student at the University of California at Santa Cruz. Indies. The purpose of this survey is to analyze recreational any changes in recreation and visitation that might occur nnel Project, sometimes called the BDCP or California be reported in aggregate. Can you take about fifteen minutes ation about your recreational boating activities.
1. Do your own a boat or Own: Yes Rent: Yes If No to both rent and o	No No	eboat or other type of boat to go boating?
2. Which best describes	your boat or boats (	(select all that apply)?
M. Other:	her non-motorized b	
A. I do not go boatin B. 1–5	many times per year g in the Delta.	r do you visit the Delta for recreational boating?
C. 6–10 D) 11–15 E. 15–20 F. More than 20	·	
If Answer to 3 is A,	, then end survey.	
<ul><li>A. Fishing</li><li>B. Wake boarding</li><li>C. Water Skiing</li><li>D. Cruising</li></ul>	de bars and restaura	you usually undertake (select all that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas  Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) おりい
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			
mph speed zones			
before reaching fast			
water		/	
Nearby waterside bars		$\downarrow$	
and restaurants			
Turbid/muddy water			7
Heavy barge/boat			<b>│</b>
traffic	-		/ -
Excellent	1 1		
birdwatching			
Loud noise (traffic,			<b>X</b>
construction, etc.)			/ `
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

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  - A. No change in frequency of boating activity in the Delta overall
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  - I would occasionally avoid the Delta by switching to boat at locations other than the Delta.

    I would often avoid the Delta by switching to boat at locations other than the Delta.
    - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
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  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
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    - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- I would be much less likely to visit the Clarksburg area.
- (F.) I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- I am sure I would not visit the Clarksburg Marina during the construction project.
- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E) No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number: 8 - 1
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Yes No  Rent: Yes No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat Pontoon boat F. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:  3. Approximately how many times per year do you visit the Delta for recreational boating? A. I do not go boating in the Delta. B. 1-5 C. 6-10 D. 11-15 F. 15-20 F. More than 20
If Answer to 3 is A, then end survey.
<ul> <li>What recreational boating activities do you usually undertake (select all that apply)?</li> <li>Fishing</li> <li>Wake boarding</li> <li>Water Skiing</li> <li>Cruising</li> <li>Visiting waterside bars and restaurants</li> <li>F. Hunting</li> <li>G. Other</li> </ul>

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
_	A. West Delta around Antioch Suisun Marsh area  B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area
<	C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area
	E. Clarksburg, Hood, Walnut Grove, Locke area.
	F. Stockton, Windmill Cove area
	G. Other
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence.
	D. Arrow from the Delta in a slin in the Waler
	C. In the Delta in dry storage or at my residence out of the water
/	/n `In the Delte in a clin in the Water
`	E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?
0.	A Away from the Delta in a slip in the water
	D. A way from the Delta in dry storage or at my residence
	C. In the Delta in dry storage or at my residence out of the water
	D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	hoit or fighing supplies
1	<ol> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> </ol>
	Yes, Gas
	Yes, Food and beverages  Q. Yes, bait or fishing supplies
	(C). Yes, bait or fishing supplies
	Yes, other items E. No
	E. NO
	to de vou most often make nurchases at?
1	1. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	The Daint
	Name of Marinas: 1) (VC + ON)
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5 mph speed zones			
before reaching fast water	×		
Nearby waterside bars and restaurants			
Turbid/muddy water			$\lambda$
Heavy barge/boat			
traffic			
Excellent		$\perp$	
birdwatching		/ '	
Loud noise (traffic,			$\downarrow$
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

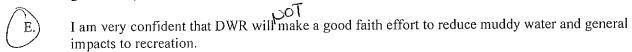
- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - (E) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- B. I would be somewhat likely to avoid areas where barges create muddy conditions.
- [C:] I would be very likely to avoid areas where barges create muddy conditions.
- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.



Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat
  - E) Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
    - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. A.
- I would be much more likely to visit the Clarksburg area. В.
- The construction would not affect the likelihood of me visiting the Clarksburg area. C.
- I would be somewhat less likely to visit the Clarksburg area. D.
- I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
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- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- (A.) Yes 1-5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey there are changes to the proposed project later?	if
Prefer not to give contact info: or	
Name:	
Address:	
Phone:	
Email:	

Survey taker nur	mber:	8-	2
boating activities during construction WaterFix project.	. I am a st is project as a part of my studies. in the Delta and to measure any con of the proposed Twin Tunnel I Your responses will only be repete our survey? et o get some general information	Project, sometimes called to corted in aggregate. Can y	the BDCP or California ou take about fifteen minutes
Own: Yes Rent: Yes	a boat or do you rent a houseboat No No at and own then end survey.	or other type of boat to go	boating?
2. Which best d	lescribes your boat or boats (selec	ct all that apply)?	
M. Other:  3. Approximate A. I do not g B. I-5 C 6-10 D. 11-15	ard boat  it boat oat t  ance boat	you visit the Delta for recr	eational boating?
E. 15–20 F. More th	an 20		
	to 3 is A, then end survey.		
A. Fishing B. Wake b C. Water S  D. Cruising	oarding Skiing g g waterside bars and restaurants g	isually undertake (select al	l that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A) West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
(	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
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9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Del-ta Marina. 2) The point
	2) The point
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	_ X		
Long or frequent 5 mph speed zones			
before reaching fast water			
Nearby waterside bars		X	
and restaurants			
Turbid/muddy water		X	
Heavy barge/boat	$\sim$		
traffic			
Excellent			
birdwatching			
Loud noise (traffic, construction, etc.)	×		
High winds	<u> </u>		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

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  - A. No change in frequency of boating activity in the Delta overall
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- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
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  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - (D.) I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. Α.

I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?

I have no reaction one way or the other. A.

- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.

I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D.

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  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. Α.
- I would be much more likely to visit the Clarksburg area. B.
- The construction would not affect the likelihood of me visiting the Clarksburg area. C.
  - I would be somewhat less likely to visit the Clarksburg area.
- D. I would be much less likely to visit the Clarksburg area. E.,
- I am sure that I would not visit the Clarksburg area at all during the construction project. F.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- I would be much less likely to visit the Clarksburg Marina.
  I am sure I would not visit the Clarksburg Marina during the construction project.
  - The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
  - A. I would be somewhat more likely to visit the Hood Supply Company.
  - B. I would be much more likely to visit the Hood Supply Company.
  - C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
  - D. I would be somewhat less likely to visit the Hood Supply Company.
  - E. I would be much less likely to visit the Hood Supply Company.
    - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.

F. 、

- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.

  I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

	_	9-3
Survey taker number:	<u></u>	
boating activities in the Delta an during construction of the propo WaterFix project. Your respons with me to complete our survey	. I am a student at the Univers part of my studies. The purpose of this ad to measure any changes in recreation used Twin Tunnel Project, sometimes comes will only be reported in aggregate.	and visitation that might occur called the BDCP or California Can you take about fifteen minutes
1. Do you own a boat or do yo Own: Yes Rent: Yes If No to both rent and own the	u rent a houseboat or other type of boa No No en end survey.	nt to go boating?
	poat or boats (select all that apply)?	
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non M. Other:  3. Approximately how many t A. I do not go boating in the B. 1–5 C. 6–10 D. 11–15 E. 15–20 F. More than 20	imes per year do you visit the Delta fo	or recreational boating?
If Answer to 3 is A, then e	end survey.	
4. What recreational boating a A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars F. Hunting	activities do you usually undertake (sel and restaurants	ect all that apply)?
6 Other <u>Campin</u>	<u> </u>	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?			
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. E. Stockton, Windmill Cove area G. Other			
6.	Where do you keep your boat during the summer			
	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat			
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?  15210 95641			
<ul> <li>8. Where do you keep your boat in the off season?</li> <li>A. Away from the Delta in a slip in the water</li> <li>B. Away from the Delta in dry storage or at my residence</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>				
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?			
10. When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas  B. Yes, Food and beverages  C Yes, bait or fishing supplies  D. Yes, other items  E. No				
11. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?				
	Name of Marinas: 1) Happyharbor  2) Delta Resort Marinel			
	2) Delta RESOLT Marina			
	3) 13 W			

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	<i>ス</i> 」		
Long or frequent 5			
mph speed zones		` \	
before reaching fast			
water			
Nearby waterside bars	1		
and restaurants			
Turbid/muddy water			75
Heavy barge/boat			-
traffic			
Excellent			
birdwatching		- Jane Mad	
Loud noise (traffic,			l X
construction, etc.)			
High winds		<u>₩.</u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B Some reduction in frequency of boating activity in the Delta overall Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - I would often avoid the Delta by switching to boat at locations other than the Delta.
    - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- general impacts to recreation.

  I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
    - Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile-drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the 20. intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- I would be somewhat more likely to visit the Clarksburg Marina. A.
- I would be much more likely to visit the Clarksburg Marina. В.
- The construction would not effect the likelihood of me visiting the Clarksburg Marina. C.
- I would be somewhat less likely to visit the Clarksburg Marina.
  - I would be much less likely to visit the Clarksburg Marina.
  - I am sure I would not visit the Clarksburg Marina during the construction project. F.
  - The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply 21. Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
  - I would be somewhat more likely to visit the Hood Supply Company. A.
- I would be much more likely to visit the Hood Supply Company. В.
- The construction would not effect the likelihood of me visiting the Hood Supply Company. C.
- I would be somewhat less likely to visit the Hood Supply Company. D.
- I would be much less likely to visit the Hood Supply Company. E.
- I am sure I would not visit the Hood Supply Company during the construction project. F.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so 22. how often?
- Yes 1-5 times.
- Yes 6-10 times
- Yes 11-20 times
- Yes more than 20 times
- Ε. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows 23. Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- It is somewhat likely that I will use the area. Α.
- It is very likely that I will use the area.
  - It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: Monne Casital

Address: 8448 Cayuga DR 5tockton CA-95210 Phone: 209812-5075

Email:

Survey taker number: 08
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you-own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Ves No  Rent: Yes No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:
<ul> <li>3. Approximately how many times per year do you visit the Delta for recreational boating?</li> <li>A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>A. Fishing</li> <li>Wake boarding</li> <li>Water Skiing</li> <li>Cruising</li> <li>Visiting waterside bars and restaurants</li> <li>F. Hunting</li> <li>G. Other</li> </ul>

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
(	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  (A.) Yes, Gas  Yes, Food and beverages Yes, bait or fishing supplies D. Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) SUCO
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			
mph speed zones			$\sim$
before reaching fast			
water			
Nearby waterside bars	×1		
and restaurants	7		
Turbid/muddy water			
Heavy barge/boat			$\longrightarrow$
traffic			
Excellent		'X\	
birdwatching			
Loud noise (traffic,			
construction, etc.)			
High winds		X	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- B. I would be somewhat likely to avoid areas where barges create muddy conditions.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- I would be much less likely to visit the Clarksburg Marina.
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- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
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- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- Œ.) No
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- -Q. It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey i there are changes to the proposed project later?	f
Prefer not to give contact info: or	
Name:	
Address:	
Phone:	
Email:	

Survey taker number:	08	8-0	ę
am working on this project boating activities in the Deduring construction of the WaterFix project. Your rewith me to complete our st	. I am a stude t as a part of my studies. The elta and to measure any char proposed Twin Tunnel Proj esponses will only be reporte urvey? ome general information abo	ne purpose of this survey is nges in recreation and visita ect, sometimes called the B ed in aggregate. Can you ta	to analyze recreational tion that might occur DCP or California ke about fifteen minutes
<ol> <li>Do you own a boat or Own: Yes Rent: Yes</li> <li>If No to both rent and own</li> </ol>	do you rent a houseboat or o No No vn then end survey.	other type of boat to go boa	ting?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Othe M. Other:		that apply)?	
3. Approximately how m A. I do not go boating B. 1–5 C. 6–10 D. 11–15 E: 15–20 F. More than 20  If Answer to 3 is A, the		isit the Delta for recreation	al boating?
A. Fishing B. Wake boarding C. Water Skiing D. Cruising	ing activities do you usually bars and restaurants	y undertake (select all that a	apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>(D.) In the Delta in a slip in the water</li> <li>I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas Yes, Food and beverages Yes, bait or fishing supplies Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) VICTOS
	2)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5 mph speed zones before reaching fast water		×	
Nearby waterside bars and restaurants	×		
Turbid/muddy water			X
Heavy barge/boat traffic			<u> </u>
Excellent birdwatching	·	×	
Loud noise (traffic, construction, etc.)		X	
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - (E.) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta. E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

 $\mathcal{T}_{-}$ 

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
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- A. I would be somewhat more likely to visit the Clarksburg area.
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- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- Yes 6–10 times
  Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey i there are changes to the proposed project later?	f
Prefer not to give contact info: or	
Name:	
Address:	
Phone:	
Email:	

Survey taker number: 6 3 8-7
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own:  No  Rent: Yes  No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:
<ul> <li>3. Approximately how many times per year do you visit the Delta for recreational boating?</li> <li>A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>Water Skiing</li> <li>Cruising</li> </ul>
(E.) Visiting waterside bars and restaurants  F. Hunting  G. Other

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area (B) North Delta around Rio Vista, Walnut Grove, Steamboat Slough area (C) South Delta around Discovery Bay area (D) Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area (E) Clarksburg, Hood, Walnut Grove, Locke area. (F) Stockton, Windmill Cove area (G) Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>B. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B Away from the Delta in dry storage or at my residence  In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  (A. Yes, Gas  B. Yes, Food and beverages  C. Yes, bait or fishing supplies  D. Yes, other items  E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas:  1)
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing		7	
Long or frequent 5		/	
mph speed zones			$\chi$
before reaching fast			/ `
water			(
Nearby waterside bars	\(\frac{1}{2}\)		
and restaurants			
Turbid/muddy water			X
Heavy barge/boat		\ \ \	
traffic			
Excellent		/ X	
birdwatching		/	
Loud noise (traffic,		<b>\</b>	X
construction, etc.)			/
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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  - C. Significant reduction in frequency of boating activity in the Delta overall
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- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
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  - I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.

  I would be much less likely to visit the Clarksburg Marina.
  - I am sure I would not visit the Clarksburg Marina during the construction project.
- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
  - I would be somewhat less likely to visit the Hood Supply Company.
  - I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?



Yes 1-5 times.

Yes 6–10 times

Yes 11–20 times

Yes more than 20 times

- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	8-8
Hi, my name is I am a student at the Univer am working on this project as a part of my studies. The purpose of the boating activities in the Delta and to measure any changes in recreated during construction of the proposed Twin Tunnel Project, sometimes WaterFix project. Your responses will only be reported in aggregate. with me to complete our survey? First, I would like to get some general information about your recreat	is survey is to analyze recreational on and visitation that might occur called the BDCP or California  Can you take about fifteen minutes
1. Do you own a boat or do you rent a houseboat or other type of bo Own: Yes No Rent: Yes No If No to both rent and own then end survey.	at to go boating?
2. Which best describes your boat or boats (select all that apply)?	
A. Cabin cruiser  B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:	or recreational hosting?
<ul> <li>3. Approximately how many times per year do you visit the Delta for A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>	or recreational boating?
If Answer to 3 is A, then end survey.	
4. What recreational boating activities do you usually undertake (see A.) Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants	elect all that apply)?
F. Hunting G. Other	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas  Yes, Food and beverages  C. Yes, bait or fishing supplies  Yes, other items  E. No
11.	Name of Marinas:  2)  3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast		X!	
water			
Nearby waterside bars		l V	
and restaurants			
Turbid/muddy water			Χ
Heavy barge/boat			
traffic		<u> </u>	
Excellent			
birdwatching	<u> </u>		
Loud noise (traffic,		<b>Y</b>	
construction, etc.)		/	
High winds		<u> </u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

s No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.

    E. would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.

E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site. and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the 20. intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- I would be somewhat more likely to visit the Clarksburg Marina. A.
- I would be much more likely to visit the Clarksburg Marina. Β.
- The construction would not effect the likelihood of me visiting the Clarksburg Marina. C.
- I would be somewhat less likely to visit the Clarksburg Marina. D.
- I would be much less likely to visit the Clarksburg Marina. I am sure I would not visit the Clarksburg Marina during the construction project.
  - The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy 21. construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
  - I would be somewhat more likely to visit the Hood Supply Company. A.
  - I would be much more likely to visit the Hood Supply Company. В.
  - The construction would not effect the likelihood of me visiting the Hood Supply Company. C.
  - I would be somewhat less likely to visit the Hood Supply Company. D.
- I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so 22. how often?
- Yes 1-5 times.
- Yes 6-10 times
- Yes 11-20 times C.
- Yes more than 20 times D.
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows 23. Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- It is somewhat likely that I will use the area. A.
- It is very likely that I will use the area. В.
- It is somewhat unlikely that I will use the area. C.
  - It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number: © 8	8-9
am working on this project as a ploating activities in the Delta and during construction of the propo WaterFix project. Your respons with me to complete our survey?	. I am a student at the University of California at Santa Cruz. I art of my studies. The purpose of this survey is to analyze recreational to measure any changes in recreation and visitation that might occur sed Twin Tunnel Project, sometimes called the BDCP or California as will only be reported in aggregate. Can you take about fifteen minutes meral information about your recreational boating activities.
Own: Yes	rent a houseboat or other type of boat to go boating? No No n end survey.
2. Which best describes your b	oat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat P. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non M. Other:	motorized boat
3. Approximately how many ti A. I do not go boating in the B. 1–5 C. 6–10	nes per year do you visit the Delta for recreational boating? Delta.
D. 11–15 E. 15–20	
F. More than 20	
If Answer to 3 is A, then en	d survey.
4. What recreational boating at A. Fishing B. Wake boarding C. Water Skiing C. Cruising F. Visiting waterside bars a	tivities do you usually undertake (select all that apply)?  nd restaurants
G. Other	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area  B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area  C. South Delta around Discovery Bay area
(	D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area  E. Clarksburg, Hood, Walnut Grove, Locke area.
	F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence:
	B. Away from the Delta in a slip in the water  (C) In the Delta in dry storage or at my residence out of the water
	D. In the Delta in a slip in the water
	E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B Away from the Delta in dry storage or at my residence  (C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas Yes, Food and beverages Yes, bait or fishing supplies D. Yes, other items E. No
	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) B T VO
	3)

Condition	More Likely	No Change	Less Likely
Excellent fishing	N N		
Long or frequent 5			
mph speed zones		, 6	
before reaching fast		$\mathcal{L}$	
water			
Nearby waterside bars			
and restaurants		N	
Turbid/muddy water			<u> </u>
Heavy barge/boat			$\mathbf{I}$
traffic			/ 0
Excellent		·~	
birdwatching		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Loud noise (traffic,			<u> </u>
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Cent<u>ral</u> Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - (C) Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - (D) I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions. В.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- I would be very likely to boat more often in areas where barges create muddy conditions. Ē.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and Α. В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.
- E.

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
- Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
    - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- I am sure I would not visit the Clarksburg Marina during the construction project.

  The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy
- construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E I would be much less likely to visit the Hood Supply Company.
- F.) I am sure I would not visit the Hood Supply Company during the construction project.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
- (E.) I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	8-10
Hi, my name is I am a student at am working on this project as a part of my studies. The purboating activities in the Delta and to measure any changes in during construction of the proposed Twin Tunnel Project, s WaterFix project. Your responses will only be reported in with me to complete our survey?  First, I would like to get some general information about you	n recreation and visitation that might occur ometimes called the BDCP or California aggregate. Can you take about fifteen minutes
<ol> <li>Do you own a boat or do you rent a houseboat or other Own: Yes No Rent: Yes No</li> <li>If No to both rent and own then end survey.</li> </ol>	type of boat to go boating?
2. Which best describes your boat or boats (select all that	apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:  3. Approximately how many times per year do you visit to A I do not go boating in the Delta. B. 1-5 C. 6-10 D. 11-15 E. 15-20	the Delta for recreational boating?
F. More than 20	
If Answer to 3 is A, then end survey.	
<ul> <li>4. What recreational boating activities do you usually under the control of the control</li></ul>	dertake (select all that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
7	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C) South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
l	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A Yes, Gas Yes, Food and beverages Yes, bait or fishing supplies D. Yes, other items E. No
1	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1)
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5	,		
mph speed zones			
before reaching fast			
water			
Nearby waterside bars			
and restaurants	/ /		
Turbid/muddy water			
Heavy barge/boat			X
traffic			
Excellent		X	
birdwatching			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Loud noise (traffic,			X
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.

    E. would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. A.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D.



general impacts to recreation.

Y

I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
  - I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. \_ I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E) No

F.)

- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	9-11
Hi, my name is I am a student at the Univers am working on this project as a part of my studies. The purpose of this boating activities in the Delta and to measure any changes in recreation during construction of the proposed Twin Tunnel Project, sometimes c WaterFix project. Your responses will only be reported in aggregate. with me to complete our survey?  First, I would like to get some general information about your recreation.	s survey is to analyze recreational and visitation that might occur alled the BDCP or California  Can you take about fifteen minutes
1. Do you own a boat or do you rent a houseboat or other type of boat Own:  Yes  No  No  If No to-both rent and own then end survey.	t to go boating?
2. Which best describes your boat or boats (select all that apply)?	
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:	
<ul> <li>Approximately how many times per year do you visit the Delta for A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>	recreational boating?
If Answer to 3 is A, then end survey.	
<ul> <li>4. What recreational boating activities do you usually undertake (selection A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> <li>E. Visiting waterside bars and restaurants</li> <li>F. Hunting</li> <li>Other</li> <li>Other</li> </ul>	,
J.	

	11		, B, C, or D, then: Which marina or marinas do you most often make purchases at?  1)
	(	E) No	
		C. Yes, bait or fish D. Yes, other item	s supplies
		<ul><li>A. Yes, Gas</li><li>B. Yes, Food and I</li></ul>	beverages
	10.	When you visit the or other items from	Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, Delta marinas? Circle all that apply.
	9.	If the answer to 8 is	A or B, what is the zip code where you keep your boat during the off season?
		<ul><li>C. In the Delta in o</li><li>D. In the Delta in a</li><li>E. I have a home in</li></ul>	lry storage or at my residence out of the water slip in the water the belta with an attached dock where I keep my boat
NH	δ.	A Away from the	Delta in a slip in the water  Delta in dry storage or at my residence
a. 10	o	Wilson do you keep	your boat in the off season?
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		<ul><li>D. In the Delta in a</li><li>E. I have a home in</li></ul>	slip in the water the Delta with an attached dock where I keep my boat
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$\bigvee$	A	A. Away from the I	Delta in dry storage or at my residence.
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		F. Stockton, Windr G. Other	nill Cove area
		D. Central Delta arou	und Korth's Pirate's Lair, Bethel Island, Franks Tract area d, Walnut Grove, Locke area.
	(	B. North Delta aroun	d Rio Vista, Walnut Grove, Steamboat Slough area d Discovery Bay area
		A. West Delta around	d Antioch Suisun Marsh area
	5.	Which of the followi	ng areas of the Delta best describes the areas of the Delta that you use for these (circle all that apply)?

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5		**	
mph speed zones			
before reaching fast	X		
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water	<u> </u>		
Heavy barge/boat			$\perp$
traffic			
Excellent	X		
birdwatching			
Loud noise (traffic,			X
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
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  - (D) Increase in frequency of boating activity in the Delta overall.
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  - A. No change in location of my boating activity.
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The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
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  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - (É.) Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

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- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
- F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- I would be somewhat less likely to visit the Clarksburg Marina.

  I would be much less likely to visit the Clarksburg Marina.
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- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.

  I am sure I would not visit the Hood Supply Company during the construction project.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
    - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

or

Name: Gustaw Couz

Address:

Phone:

Email: gustavo abelcraza fmail. Lom

Survey taker num	nber: 0 8	8-	13
boating activities in during construction WaterFix project. with me to comple	I am a st s project as a part of my studies. In the Delta and to measure any on In of the proposed Twin Tunnel I Your responses will only be repute our survey?	changes in recreation and Project, sometimes called ported in aggregate. Can y	the BDCP or California you take about fifteen minutes
Own: Yes Rent: Yes	boat or do you rent a houseboat No No and own then end survey.	or other type of boat to g	go boating?
2. Which best de	scribes your boat or boats (selec	et all that apply)?	
A. Cabin crui B. Wakeboar C. Ski boat D. Runabout E. Pontoon b F. House boa G. Day boat H. Jet Boat I. Big Cat J. Performan K. Sail boat L. Kayak/Ca M. Other:	d boat oat at noe/Other non-motorized boat		
3. Approximately A. I do not go B. 1–5 C. 6–10 D. 11–15 E. 15–20	y how many times per year do y boating in the Delta.	ou visit the Delta for recr	eational boating?
F. More than	20		
If Answer to	3 is A, then end survey.		
A. Fishing B. Wake boa Water Ski D Cruising		sually undertake (select al	l that apply)?
G. Other			

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	West Delta around Antioch Suisun Marsh area North Delta around Rio Vista, Walnut Grove, Steamboat Slough area South Delta around Discovery Bay area Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?  ADT MING TO SWALC
	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to.8 is A or B, what is the zip code where you keep your boat during the off season?
1(	O. When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas  Yes, Food and beverages  Yes, bait or fishing supplies  Yes, other items  E. No
1	Name of Marinas: 1) Resort
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	<u> </u>		
Long or frequent 5			
mph speed zones		1	
before reaching fast		\ \ \ \ \	
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water			X
Heavy barge/boat			l x
traffic			
Excellent			
birdwatching		<u> </u>	
Loud noise (traffic,			<b>\</b>
construction, etc.)			
High winds	<u> </u>		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B) Some reduction in frequency of boating activity in the Delta overall C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A) No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?

A. B This is not a concern for me.

I would be somewhat likely to avoid areas where barges create muddy conditions.

C. I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.



I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
    - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.

  I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E I would be much less likely to visit the Clarksburg Marina.
- (F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- (D.) Yes more than 20 times
  - $\overline{E}$ . No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Surve	vey taker number: 08	-14
am wo boating during Water with r	I am a student at the University of vorking on this project as a part of my studies. The purpose of this surving activities in the Delta and to measure any changes in recreation and ag construction of the proposed Twin Tunnel Project, sometimes called erFix project. Your responses will only be reported in aggregate. Can me to complete our survey?	visitation that might occur the BDCP or California you take about fifteen minutes
Own: Rent:	\(\frac{1}{2}\)	to boating?
2. W	Which best describes your boat or boats (select all that apply)?	
A B C D E G H I. J. K L	A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat D. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:  Approximately how many times per year do you visit the Delta for reco	eational boating?
Е	B. 1–5 C. 6–10 D.) 11–15 E. 15–20	
	F. More than 20	
I	If Answer to 3 is A, then end survey.	
/ E S	What recreational boating activities do you usually undertake (select a A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants Hunting	ll that apply)?
(	G. Other	

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for recreational activities (circle all that apply)?				
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other				
6.	Where do you keep your boat during the summer				
Ć	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  In the Delta in dry storage or at my residence out of the water  In the Delta in a slip in the water  I have a home in the Delta with an attached dock where I keep my boat				
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?				
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat				
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?				
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No				
11. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases  Name of Marinas: 1) 5 1005 5 1000					
	2)				
	3)				

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5 mph speed zones before reaching fast water		X	
Nearby waterside bars and restaurants	× ×		
Turbid/muddy water			×
Heavy barge/boat			
traffic			
Excellent		Υ.	
birdwatching			<u> </u>
Loud noise (traffic, construction, etc.)			X
High winds		$\sim$	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
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- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- B. I would be somewhat likely to avoid areas where barges create muddy conditions.
- (?) I would be very likely to avoid areas where barges create muddy conditions.
- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
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- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.



I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

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- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E.) I would be much less likely to visit the Clarksburg area.
- F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F. I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- I would be much more likely to visit the Hood Supply Company.
  - The construction would not effect the likelihood of me visiting the Hood Supply Company.
  - D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- (B.) Yes 6–10 times
  - C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name:

Address:

Phone:

Email:

320 S Front Rio Vister 707 208 3035 mickelita Oprodigy, net

Survey taker number: <u>09</u> 8-15
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Yes No  Rent: Yes No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other: Deak boak  3. Approximately how many times per year do you visit the Delta for recreational boating? A. I do not go boating in the Delta. B. 1-5 C. 6-10 D. 11-15 E. 15-20
F) More than 20
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>(A) Fishing</li> <li>(B) Wake boarding</li> <li>(C) Water Skiing</li> <li>(D) Cruising</li> <li>(E) Visiting waterside bars and restaurants</li> <li>(E) F. Hunting</li> <li>(E) Other</li></ul>

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area  B) North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  On the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  (A. Yes, Gas  B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
1	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) The Points
	3)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5 mph speed zones			
before reaching fast water	/\		
Nearby waterside bars	.~.		
and restaurants			, , ,
Turbid/muddy water			<u> </u>
Heavy barge/boat			<b>'</b>
traffic	1		
Excellent	\\		
birdwatching	N N		
Loud noise (traffic,	· •	$\mathcal{L}$	y Y
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes N

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall. E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - Delywould often avoid the Delta by switching to boat at locations other than the Delta.

    (E. I)would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- B. I would be somewhat likely to avoid areas where barges create muddy conditions.
- Twould be very likely to avoid areas where barges create muddy conditions.
- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.

E.

- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
  - am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.

F.

I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- (F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D I would be somewhat less likely to visit the Hood Supply Company.
- I would be much less likely to visit the Hood Supply Company.

  I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E' No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number: 8—16
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Yes No  Rent: Yes No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:
<ul> <li>3. Approximately how many times per year do you visit the Delta for recreational boating?</li> <li>A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> <li>E. Visiting waterside bars and restaurants</li> <li>F. Hunting</li> <li>G. Other</li> </ul>

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area  B) North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?  Prof not want to answer
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?  Did hot want to answer
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) 10 cal vestaurants  2) The point
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5 mph speed zones before reaching fast water	X		
Nearby waterside bars and restaurants	*		
Turbid/muddy water	Х		
Heavy barge/boat traffic	X		
Excellent birdwatching	X		
Loud noise (traffic, construction, etc.)	X		
High winds	X		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

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The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
- (E) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - (C.) I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- (B) I would be somewhat likely to avoid areas where barges create muddy conditions.
- C. I would be very likely to avoid areas where barges create muddy conditions.
- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
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DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. Α.
- I would be much more likely to visit the Clarksburg area. В.
- The construction would not affect the likelihood of me visiting the Clarksburg area. C.
- I would be somewhat less likely to visit the Clarksburg area. E. F.
  - I would be much less likely to visit the Clarksburg area.
    - l am sure that I would not visit the Clarksburg area at all during the construction project.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the 20. intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- I would be much less likely to visit the Clarksburg Marina.
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- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy 21. construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
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- The construction would not effect the likelihood of me visiting the Hood Supply Company. C.
- I would be somewhat less likely to visit the Hood Supply Company.
- I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so 22. how often?
- Yes 1-5 times.
- Yes 6-10 times
- Yes 11-20 times
- Yes more than 20 times D.
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows 23. Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- It is somewhat likely that I will use the area. Α.
- It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area.
- It is very unlikely that I will use the area.
- I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number: 5 - 2
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minutes with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
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2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:
3. Approximately how many times per year do you visit the Delta for recreational boating?  A. I do not go boating in the Delta.  B. 1-5  C. 6-10
D. 11–15 E. 15–20 F. More than 20
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> <li>E. Visiting waterside bars and restaurants</li> <li>F. Hunting</li> </ul>
G. Other

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
2	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
Ĉ	Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Pittsburg  2) Ocwood  3) Viegers
	2) 06 Wood
	3) Viegeras

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	i i		
Long or frequent 5			:
mph speed zones			, , , , , , , , , , , , , , , , , , ,
before reaching fast			l X
water			
Nearby waterside bars		V V	
and restaurants			
Turbid/muddy water			X
Heavy barge/boat			, <i>j</i>
traffic			
Excellent			
birdwatching	X		
Loud noise (traffic,			_~'
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
    - D. Increase in frequency of boating activity in the Delta overall.
    - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions. B.
- I would be very likely to avoid areas where barges create muddy conditions. C.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions. D., ÉY
  - I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. Α.

E.

- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.
  - NOT
    I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

I Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
- F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
  - I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.

    I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.

I would be much less likely to visit the Clarksburg Marina.

- I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.

I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
  - Yes 11–20 times
    - Yes more than 20 times
    - No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
  - ) It is somewhat unlikely that I will use the area.
  - It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Prefer now...

Or

Name: Let Lowson

Address: 1025 Sulfolik Cy

Phone: Lairfield CA 99533

Email: Mawson 939 @ Slagfold way.

Survey taker number: 5-4
Hi, my name is I am a student at the University of California at Santa Cruz. I am working on this project as a part of my studies. The purpose of this survey is to analyze recreational boating activities in the Delta and to measure any changes in recreation and visitation that might occur during construction of the proposed Twin Tunnel Project, sometimes called the BDCP or California WaterFix project. Your responses will only be reported in aggregate. Can you take about fifteen minute with me to complete our survey?  First, I would like to get some general information about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat or other type of boat to go boating?  Own: Yes No  Rent: Yes No  If No to both rent and own then end survey.
2. Which best describes your boat or boats (select all that apply)?
A. Cabin cruiser  B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M. Other:
<ul> <li>3. Approximately how many times per year do you visit the Delta for recreational boating?</li> <li>A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>E. 15-20</li> <li>F. More than 20</li> </ul>
If Answer to 3 is A, then end survey.
<ul> <li>4. What recreational boating activities do you usually undertake (select all that apply)?</li> <li>A. Fishing</li> <li>B. Wake boarding</li> <li>C. Water Skiing</li> <li>D. Cruising</li> <li>E. Visiting waterside bars and restaurants</li> <li>F. Hunting</li> </ul>

G. Other

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A) West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other Color of Co
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  Yes, Gas  Yes, Food and beverages  Yes, bait or fishing supplies  D. Yes, other items  E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) SUISUA
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			
mph speed zones			× ×
before reaching fast			
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water			<u> </u>
Heavy barge/boat			- /
traffic			
Excellent			
birdwatching			
Loud noise (traffic,			\ \ \ \ \ \
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

<u></u>	
Yes	No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

C.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

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DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
- Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. Α.
- I would be much more likely to visit the Clarksburg area. В.
- The construction would not affect the likelihood of me visiting the Clarksburg area. C.
- I would be somewhat less likely to visit the Clarksburg area. D.
- I would be much less likely to visit the Clarksburg area.
- I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- (E.) I would be much less likely to visit the Clarksburg Marina.
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- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- (E.) I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: Roy Phillips
Address: 013 Golden Eyeway 150:5000th
94585

Email:

Survey taker number:	5	l	5-5	
Hi, my name is am working on this project a boating activities in the Delt during construction of the pr WaterFix project. Your resp with me to complete our sur First, I would like to get som	s a part of my stud a and to measure a coposed Twin Tun conses will only be vey?	dies. The purpose any changes in round unel Project, som e reported in agg	ecreation and visitat etimes called the BI regate. Can you tak	ion that might occur OCP or California te about fifteen minutes
1. Do you own a boat or do Own: Yes Rent: Yes If No to both rent and own	No No		e of boat to go boat	ing?
2. Which best describes yo	our boat or boats (	select all that ap	oly)?	
A Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other M. Other:	_			11 disso
3. Approximately how ma A. I do not go boating i B. 1-5 C. 6-10 D. 11-15 E. 15-20 F. More than 20	n the Delta.	do you visit the	Delta for recreation	al boating?
If Answer to 3 is A, th	en end survey.			
4. What recreational boat A. Fishing B. Wake boarding C. Water Skiing Cruising Visiting waterside F. Hunting			take (select all that	apply)?

G. Other \_\_\_\_\_

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B) North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C) South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>B. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  (C.) In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10.	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11.	If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?  Name of Marinas: 1) TW point
	Name of Marinas: 1)
	3)
	31

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing		<u> </u>	
Long or frequent 5 mph speed zones before reaching fast water			
Nearby waterside bars and restaurants	X		
Turbid/muddy water			
Heavy barge/boat traffic	× _		
Excellent birdwatching		X	
Loud noise (traffic, construction, etc.)	*		
High winds		<u> </u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

No

Yes

Southern California cities.

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - (E) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.

    (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions. В.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. A.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.
- NUCT I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

## 11 Thank you for those responses. Now have a question about whether the tunnel construction activities that

will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
  - I would be much less likely to visit the Clarksburg area.
    - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- (F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.

  I would be much less likely to visit the Hood Supply Company.
- F. I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- (A) Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- (D.) It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	5	5-6
boating activities in the Delta a during construction of the prop WaterFix project. Your responsith me to complete our surve	and to measure any changes in recrea posed Twin Tunnel Project, sometim nses will only be reported in aggrega	es called the BDCP or California ite. Can you take about fifteen minute
1. Do you own a boat or do y Own: Yes Rent: Yes If No to both rent and own to	you rent a houseboat or other type of No No hen end survey.	boat to go boating?
2. Which best describes your	r boat or boats (select all that apply)?	,
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other n M. Other:		
A. I do not go boating in t B. 1-5 C. 6-10 D. 11-15 E. 15-20 F. More than 20		a for recreational boating?
If Answer to 3 is A, then	end survey.	
4. What recreational boating A. Fishing B. Wake boarding C. Water Skiing Cruising E. Visiting waterside base F. Hunting G. Other	g activities do you usually undertake	(select all that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E. I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  P. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) The point
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones	~	Mi.	
before reaching fast		(OU)	
water			
Nearby waterside bars		$\times$	
and restaurants		/ `	
Turbid/muddy water	<u> </u>		
Heavy barge/boat	, , <u>, , , , , , , , , , , , , , , , , </u>		
traffic	X		
Excellent		✓	
birdwatching			
Loud noise (traffic,	X		
construction, etc.)	ί,	<u> </u>	
High winds		<u> </u>	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

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There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - (E.) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E.) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

(C.) I would be very likely to avoid areas where barges create muddy conditions.

I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
  - I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

4

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

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- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - Onstruction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D I would be somewhat less likely to visit the Clarksburg area.
- (E) I would be much less likely to visit the Clarksburg area.
- F. I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
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- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
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- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
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Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- (A.) Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- 23. Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.

  E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	5-7
am working on this project as a part of my stude boating activities in the Delta and to measure a during construction of the proposed Twin Tuni	a student at the University of California at Santa Cruz. I lies. The purpose of this survey is to analyze recreational ny changes in recreation and visitation that might occur nel Project, sometimes called the BDCP or California reported in aggregate. Can you take about fifteen minutes tion about your recreational boating activities.
1. Do you own a boat or do you rent a housel Own: Yes No Rent: Yes No If No to both rent and own then end survey.	poat or other type of boat to go boating?
2. Which best describes your boat or boats (s  A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized bo M. Other:	
3. Approximately how many times per year of A. I do not go boating in the Delta.  B. 1-5 C. 6-10 D. 11-15 E. 15-20 F. More than 20  If Answer to 3 is A, then end survey.	o you visit the Delta for recreational boating?
4. What recreational boating activities do you (A.) Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside bars and restaurants F. Hunting G. Other	

	for those
5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(.	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
(	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	95440
	O. When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, of other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
1	1. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Pirates / Cur
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	$\times$		
Long or frequent 5 mph speed zones before reaching fast water	X		
Nearby waterside bars and restaurants	X		
Turbid/muddy water	·×		- Q
Heavy barge/boat traffic	X		É
Excellent birdwatching	*		
Loud noise (traffic, construction, etc.)	X		
High winds	<u> </u>		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - (E.) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water 16. along barge routes?
- This is not a concern for me. A.
- I would be somewhat likely to avoid areas where barges create muddy conditions.
- I would be very likely to avoid areas where barges create muddy conditions.
- I would be somewhat likely to boat more often in areas where barges create muddy conditions. D.
- I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. A.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation. NOX
- I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
    - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
- (F.) I am sure that I would not visit the Clarksburg area at all during the construction project.

- The Clarksburg Marina is located across the river and a little over a quarter of a mile from the 20. intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- I would be somewhat more likely to visit the Clarksburg Marina. A.
- I would be much more likely to visit the Clarksburg Marina. В.
- The construction would not effect the likelihood of me visiting the Clarksburg Marina. C.
- I would be somewhat less likely to visit the Clarksburg Marina. D.
- I would be much less likely to visit the Clarksburg Marina.
- I am sure I would not visit the Clarksburg Marina during the construction project. F.,
- The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy 21. construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- I would be somewhat more likely to visit the Hood Supply Company. A.
- I would be much more likely to visit the Hood Supply Company. В.
- The construction would not effect the likelihood of me visiting the Hood Supply Company. C.
- I would be somewhat less likely to visit the Hood Supply Company. D.
- I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so 22. how often?
- Yes 1-5 times.
- Yes 6-10 times Yes 11-20 times
- C.
- Yes more than 20 times D.
- Ε. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows 23. Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- It is somewhat likely that I will use the area. A.
- It is very likely that I will use the area. В.
- It is somewhat unlikely that I will use the area. C.
- It is very unlikely that I will use the area. D.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Surv	vey taker number:		5	-8	
boat durin Wat with First	ing activities in the Deltang construction of the preerFix project. Your respans to complete our surst, I would like to get some	a and to measure any oposed Twin Tunnel onses will only be revey? The general information	Project, sometimes carported in aggregate. On about your recreation		GI.
Owi Ren	Do you own a boat or don: Yes t: Yes to to both rent and own	No No	at or other type of boat	t to go boating?	
2.	Which best describes yo	our boat or boats (sele	ect all that apply)?		
i	A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other M. Other:	_		and and I have time?	
3.	Approximately how ma A. I do not go boating in B. 1-5 C. 6-10 D. 11-15 E. 15-20 F. More than 20	ny times per year do n the Delta.	you visit the Delta for	r recreational boating?	
	If Answer to 3 is A, th	en end survey.			
4.	What recreational boats  A Fishing B. Wake boarding C Water Skiing D. Cruising E. Visiting waterside F. Hunting	ng activities do you bars and restaurants	usually undertake (sele	ect all that apply)?	
	G. Other				

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. E. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
(	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water C. In the Delta in dry storage or at my residence out of the water D. In the Delta in a slip in the water E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat  If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
9.	Ti tile aliswei to a is A of D, what is the zip code where you help your con-
10	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>A. Yes, Gas</li> <li>B. Yes, Food and beverages</li> <li>C. Yes, bait or fishing supplies</li> <li>D. Yes, other items</li> <li>E. No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Lads Marina
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			,
mph speed zones			
before reaching fast			7
water			
Nearby waterside bars			
and restaurants			
Turbid/muddy water			
Heavy barge/boat			
traffic			
Excellent			
birdwatching			
Loud noise (traffic,			X
construction, etc.)			
High winds	<u> </u>		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
- B Some reduction in frequency of boating activity in the Delta overall
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  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta. E. I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?

A. This is not a concern for me.

 $\mathbf{B}$ 

I would be somewhat likely to avoid areas where barges create muddy conditions.

C. I would be very likely to avoid areas where barges create muddy conditions.

D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.

E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?

A. I have no reaction one way or the other.

B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

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- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
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- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- (A) Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.

E.

- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- C. It is somewhat unlikely that I will use the area.
- D. It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	5-9
with me to complete our survey? First, I would like to get some general information a	roject, sometimes called the BDCP or California rted in aggregate. Can you take about fifteen minutes about your recreational boating activities.
1. Do you own a boat or do you rent a houseboat of Own: Yes No No No If No to both rent and own then end survey.	or other type of boat to go boating?
2. Which best describes your boat or boats (select	all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other non-motorized boat M Other: BA 22 Pro Carl	
<ul> <li>Approximately how many times per year do you</li> <li>A. I do not go boating in the Delta.</li> <li>B. 1-5</li> <li>C. 6-10</li> <li>D. 11-15</li> <li>F. 15-20</li> <li>F. More than 20</li> </ul>	ou visit the Delta for recreational boating?
If Answer to 3 is A, then end survey.	
4. What recreational boating activities do you us  A Fishing B. Wake boarding Water Skiing Cruising Cruising Visiting waterside bars and restaurants F. Hunting Other	ually undertake (select all that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area C. Clarksburg, Hood, Walnut Grove, Locke area. (F) Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	A Away from the Delta in dry storage or at my residence.
٧.	B. Away from the Delta in a slip in the water  C.) In the Delta in dry storage or at my residence out of the water
	C.) In the Delta in dry storage or at my residence out of the water
	D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	Device to the zin code where you keen your hoat during summer?
8.	Where do you keep your boat in the off season?
	A Away from the Delta in a slip in the water
	B. Away from the Delta in dry storage or at my residence (C) In the Delta in dry storage or at my residence out of the water
	D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
	). When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies,
1.6	or other items from Delta marinas? Circle all that apply.
	(A) Yes. Gas
	B Yes, Food and beverages (C) Yes, bait or fishing supplies (D) Yes, other items
	D Yes, other items
	Ĕ. No
	in a de vou most often make nurchases at?
1	1. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) LAOWCH (@) KLOUSTA
	Name of Marinas: 1) LAONCH @ RIOUSTA  2) " @ Brangy Island
	١١ / ١١
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5			
mph speed zones			
before reaching fast		X	
water			
Nearby waterside bars		<u> </u>	
and restaurants			
Turbid/muddy water			
Heavy barge/boat			
traffic			
Excellent		/	
birdwatching			
Loud noise (traffic,			<b>X</b>
construction, etc.)			
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



Νo

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- This is not a concern for me. Α.

I would be somewhat likely to avoid areas where barges create muddy conditions.

B. I would be very likely to avoid areas where barges create muddy conditions.

- I would be somewhat likely to boat more often in areas where barges create muddy conditions. D.
- I would be very likely to boat more often in areas where barges create muddy conditions. E.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- Which of the following best describes your reaction to DWR's intention to implement a barge 17. operations plan?
- I have no reaction one way or the other. A.
- I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and В. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general C. impacts to recreation.
- I somewhat confident that DWR will not make a good faith effort to reduce muddy water and D. general impacts to recreation.
- I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - F. Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

- 19. Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- I would be much less likely to visit the Hood Supply Company.
  - I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- Yes 1–5 times. Yes 6–10 times
  - C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area.

  It is very unlikely that I will use the area.
  - I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

Name: TAWYA AWGUTA

Address:

Email: Photogic/tunya @ Smail. con

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Survey taker number:	5		5-	10
Hi, my name isam working on this project as boating activities in the Delta during construction of the prowaterFix project. Your resp with me to complete our surv First, I would like to get som	a and to measure any char oposed Twin Tunnel Projonses will only be reporte vey?	nges in recreation and vis ect, sometimes called the ed in aggregate. Can you	itation BDCI take a	that might occur  or California  bout fifteen minutes
<ol> <li>Do you own a boat or do Own: Yes Rent: Yes</li> <li>If No to both rent and own</li> </ol>	No No	other type of boat to go b	oating'	?
2. Which best describes you	ur boat or boats (select all	that apply)?		
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other M. Other:				
3. Approximately how man A. I do not go boating in B. 1–5 C. 6–10 D) 11–15 E. 15–20 F. More than 20	the Delta.	visit the Delta for recreati	ional b	oating?
If Answer to 3 is A, the	n end survey.			
4. What recreational boating A Fishing B. Wake boarding C Water Skiing C Cruising E. Visiting waterside bare F. Hunting G. Other	ng activities do you usuall	y undertake (select all th	at appl	y)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area  (B) North Delta around Rio Vista, Walnut Grove, Steamboat Slough area (C) South Delta around Discovery Bay area (D) Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  O In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?
10	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) the Point
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing	X		
Long or frequent 5 mph speed zones before reaching fast water		4	
Nearby waterside bars and restaurants	*	AU	
Turbid/muddy water	<u> </u>		
Heavy barge/boat traffic	Ϋ́		
Excellent birdwatching	X		
Loud noise (traffic, construction, etc.)	X		
High winds	<u> </u>		

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes No

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

This map shows the route the tunnels will take. This is a picture of a tunnel boring machine similar to ones that will be used on the project. Shafts will be excavated down to the tunnels to supply the tunnel boring operations and barges will carry materials, supplies and equipment to be lowered down the shafts.

The tunnel boring machines will produce about 30,000,000 cubic yards of excavated material. The excavated material will be a combination of mud, peat soil, and liquids used to lubricate the cutting heads of the boring machine. A dump truck like the one in this picture holds about 12 cubic yards so that is equal to about two and half million truck loads of excavated material. The excavated material will be hauled up the shafts and loaded onto barges. The barges will then take the material to deposit sites on Delta Islands. This map shows the location of eight new barge landings that will be constructed and the locations where the excavated materials will be deposited. This is a picture of a tugboat and barge similar to the ones that will be used on the tunnel project. The map also shows the routes that barges will take to deliver materials and equipment and to haul away excavated tunnel material.

The California Department of Water Resources produced an Environmental Impact Report (EIR) on the tunnel project. The EIR considered the impacts of the project on recreation and concluded as follows:

"Construction of ... intakes and water conveyance facilities would result in disruption to recreational opportunities. Indirect effects on recreation experiences may occur as a result of impaired access, construction noise, or negative visual effects associated with construction. Overall, construction and geotechnical exploration may occur year-round and last from 2.5 to 13.5 years at individual construction sites near recreation sites or areas and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences."

There will also be two drilling barges that will drill into the river bottom to test the soil conditions along the tunnel route. The drilling will occur at between 90 and 100 sites on Delta waterways. Overwater drilling will occur 6 days per week in the summer and fall months for about three years. This is a map that shows the locations of the drilling, both on land and in the water.

The use of barges for water facilities construction, overwater drilling, and construction of the temporary barge unloading facilities may require partial channel closures and will require use of equipment within the waterways. Temporary in-water construction zone restrictions would be put in place around barges and barge facilities, including 5-mph speed-restricted zones extending upstream and downstream of construction within the waterway and extending upstream and downstream of barge facilities to reduce wake and maintain a safe work area in the vicinity of the construction activities.

Within the speed-restricted zones high-speed recreation (e.g., waterskiing, wakeboarding, and tubing) would effectively be eliminated.

- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E. I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.
  - (E) I would always avoid the Delta by switching to boat at locations other than the Delta.

The tug boats that will be used to push barges for this project have the potential for bottom scour from propeller wash. This may cause an increase in muddy water along the barge routes.

- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.
- B. I would be somewhat likely to avoid areas where barges create muddy conditions.
- (C) I would be very likely to avoid areas where barges create muddy conditions.
- D. I would be somewhat likely to boat more often in areas where barges create muddy conditions.
- E. I would be very likely to boat more often in areas where barges create muddy conditions.

DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- D. I somewhat confident that DWR will not make a good faith effort to reduce muddy water and general impacts to recreation.
- E. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.

Thank you for those responses. Now have a question about whether the tunnel construction activities that will take place on land might affect your boating activities.

To facilitate tunnel construction, there will be a new concrete batch plant, excavated material site, and other construction related facilities on Bouldin Island. A new road will be built to connect the construction facility to Highway 12 midway between the Terminous Bridge and the bridge at the B & W Resort. Construction trucks will travel on Highway 12 and turn onto the new road to reach the Bouldin Island construction area. The new turnout on Highway 12 and new road are shown here on this map.

It is estimated that there will be 41% more traffic crossing the Rio Vista Bridge over the Sacramento River during the construction period because of truck and car trips generated by the tunnel project.

The barges and tug boats used for tunnel construction will pass beneath 2 drawbridges on State Highway 12 (here and here) and beneath other Delta drawbridges. Each time a barge passes, the drawbridges will be opened and road traffic will be stopped until the barge clears.

Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat more often.
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less often.
  - Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

To build the in-water portion of these structures, barge-mounted pile drivers will drive foundation piles into the river bottom. There will be about 8,000 piles in all. The pile driving will take place each summer for six years. Four or more pile drivers will be working at the same time. Each time a pile driver strikes a pile, it will produce a sound of 102 decibels or more. 100 decibels is about as loud as your car stereo turned up to full volume. There will be a total of 8,000,000 individual pile strikes.

- Once construction of the intakes begins in the Clarksburg area, which best describes your response?
- A. I would be somewhat more likely to visit the Clarksburg area.
- B. I would be much more likely to visit the Clarksburg area.
- C. The construction would not affect the likelihood of me visiting the Clarksburg area.
- D. I would be somewhat less likely to visit the Clarksburg area.
- E. I would be much less likely to visit the Clarksburg area.
- (F.) I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- (F.) I am sure I would not visit the Clarksburg Marina during the construction project.
- 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
- A. I would be somewhat more likely to visit the Hood Supply Company.
- B. I would be much more likely to visit the Hood Supply Company.
- C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
- D. I would be somewhat less likely to visit the Hood Supply Company.
- E. I would be much less likely to visit the Hood Supply Company.
- (F) I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E. No.
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- A. It is somewhat likely that I will use the area.
- B. It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area.
  It is very unlikely that I will use the area.
- E. I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	5	5-12
am working on this project boating activities in the De during construction of the p WaterFix project. Your reswith me to complete our su First, I would like to get so  1. Do you own a boat or own: Yes  Rent: Yes	as a part of my studi Ita and to measure an proposed Twin Tunne sponses will only be n prvey? me general informati do you rent a housebo No No	a student at the University of California at Santa Cruz. I es. The purpose of this survey is to analyze recreational by changes in recreation and visitation that might occur el Project, sometimes called the BDCP or California reported in aggregate. Can you take about fifteen minutes ion about your recreational boating activities.
If No to both rent and ow	n then end survey.	•
2. Which best describes y	our boat or boats (se	lect all that apply)?
A. Cabin cruiser B. Wakeboard boat C. Ski boat D. Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Othe M. Other: frsh 3. Approximately how m A. I do not go boating B. 1-5 C. 6-10 D. 11-15 E. 15-20 F. More than 20	any times per year do	o you visit the Delta for recreational boating?
	an and annuar	
If Answer to 3 is A, th	ien enu survey.	
A Fishing B. Wake boarding C. Water Skiing D. Cruising	ing activities do you bars and restaurants	usually undertake (select all that apply)?

5.	Which of the following areas of the Delta best describes the areas of the Delta that you use for these recreational activities (circle all that apply)?
(	A. West Delta around Antioch Suisun Marsh area  B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area C. South Delta around Discovery Bay area D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area E. Clarksburg, Hood, Walnut Grove, Locke area. F. Stockton, Windmill Cove area G. Other
6.	Where do you keep your boat during the summer
( lk	A. Away from the Delta in dry storage or at my residence.  B. Away from the Delta in a slip in the water  In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?  Did hot want to answer
C	<ul> <li>When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.</li> <li>Yes, Gas</li> <li>Yes, Food and beverages</li> <li>Yes, bait or fishing supplies</li> <li>Yes, other items</li> <li>No</li> </ul>
11	. If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) Viera Resert
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			X
Long or frequent 5 mph speed zones before reaching fast water	X		
Nearby waterside bars and restaurants			X
Turbid/muddy water	X		
Heavy barge/boat traffic	×		
Excellent birdwatching			X
Loud noise (traffic, construction, etc.)	X		
High winds			

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?

Yes

This map shows the tunnel construction project. The plan is to build three new intakes to divert water from the Sacramento River near the town of Hood, just downstream from Sacramento. The water diverted at Hood will be conveyed through twin forty foot diameter tunnels buried 150 feet underground beneath Delta islands and sloughs. The water will then be sent south to irrigate Central Valley farms and supply Southern California cities.

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- 14. Once the tunnel construction project begins, which of the following best describes the likely change in the frequency of your boating activity in the Delta overall in response to the construction described above?
  - A. No change in frequency of boating activity in the Delta overall
  - B. Some reduction in frequency of boating activity in the Delta overall
  - C. Significant reduction in frequency of boating activity in the Delta overall
  - D. Increase in frequency of boating activity in the Delta overall.
  - E) I will stop boating in the Delta altogether.
- 15. Once tunnel construction begins, which of the following best describes the likely change in the location of your boating activity?
  - A. No change in location of my boating activity.
  - B. I would change the location of my boating within the Delta to avoid construction activity but would not switch to boat at locations other than the Delta.
  - C. I would occasionally avoid the Delta by switching to boat at locations other than the Delta.
  - D. I would often avoid the Delta by switching to boat at locations other than the Delta.

    E. would always avoid the Delta by switching to boat at locations other than the Delta.

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- 16. Which of the following best describes your reaction to the potential for an increase muddy water along barge routes?
- A. This is not a concern for me.

B. I would be somewhat likely to avoid areas where barges create muddy conditions.

I would be very likely to avoid areas where barges create muddy conditions.

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DWR says that they will implement a barge operations plan and use their best efforts to reduce or avoid any increases in muddy water from barge operations and to reduce or avoid barge impacts to recreation in general.

- 17. Which of the following best describes your reaction to DWR's intention to implement a barge operations plan?
- A. I have no reaction one way or the other.
- B. I am somewhat confidence that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
- C. I am very confident that DWR will make a good faith effort to reduce muddy water and general impacts to recreation.
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Construction trucks will also use other roadways in various locations throughout the Delta.

- 18. Which of the following best describes your response to construction vehicles using Delta roadways and bridge openings for barge traffic?
  - A. Construction vehicles and bridge openings will not affect my use of the Delta for recreation.
  - B. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat
  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
  - E. Construction vehicles and bridge openings will cause me to use the Delta for recreation much less
- Construction vehicles and bridge openings will cause me to stop using the Delta for recreation altogether.

Thank you. I have two questions about how tunnel construction activity might affect your likelihood of visiting the Hood and Clarksburg area. The three intakes that will divert water from the Sacramento River into the tunnels will be built in this area.

This is a map showing construction of the three intakes, which will be located along a six mile stretch of the Sacramento River between Freeport and Courtland. These intake structures are each about 3/4 of a mile long. To build each intake structure, highway 160 will be moved inland away from the river to allow room for the structure, the area will be excavated, and concrete structures will be built. Construction equipment in use will include dump trucks, excavators, bulldozers, and rock drills. Explosive blasting may be used at excavation sites. Helicopter over-flights would occur in connection with installation of new power lines at this area.

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- Once construction of the intakes begins in the Clarksburg area, which best describes your 19. response?
- I would be somewhat more likely to visit the Clarksburg area. Α.
- I would be much more likely to visit the Clarksburg area. B.
- The construction would not affect the likelihood of me visiting the Clarksburg area. C.
- I would be somewhat less likely to visit the Clarksburg area. D.
- I would be much less likely to visit the Clarksburg area.
  - I am sure that I would not visit the Clarksburg area at all during the construction project.

- 20. The Clarksburg Marina is located across the river and a little over a quarter of a mile from the intake construction site, in view of the pile-driving activities. The Clarksburg Marina is here on the map. Which of the following best describes your response with regard to the Clarksburg Marina once intake construction begins?
- A. I would be somewhat more likely to visit the Clarksburg Marina.
- B. I would be much more likely to visit the Clarksburg Marina.
- C. The construction would not effect the likelihood of me visiting the Clarksburg Marina.
- D. I would be somewhat less likely to visit the Clarksburg Marina.
- E. I would be much less likely to visit the Clarksburg Marina.
- F. I am sure I would not visit the Clarksburg Marina during the construction project.
  - 21. The Hood Supply Company is a bar and grill located next to the intake construction site. Heavy construction trucks and equipment will pass within 100 feet of the restaurant. The Hood Supply Company has both indoor and outdoor seating. Which of the following best describes your response with regard to the Hood Supply Company once intake construction begins?
  - A. I would be somewhat more likely to visit the Hood Supply Company.
  - B. I would be much more likely to visit the Hood Supply Company.
  - C. The construction would not effect the likelihood of me visiting the Hood Supply Company.
  - D. I would be somewhat less likely to visit the Hood Supply Company.
  - E. I would be much less likely to visit the Hood Supply Company.
- F.) I am sure I would not visit the Hood Supply Company during the construction project.

Thank you. I have two final questions about how tunnel construction activities might affect your likelihood of visiting the Meadows Slough / Upper Snodgrass Slough anchorage area. The Meadows Slough is shown here on the map. Construction activities and barge routes near the Meadows Slough are also shown on the map.

- 22. Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so how often?
- A. Yes 1–5 times.
- B. Yes 6–10 times
- C. Yes 11–20 times
- D. Yes more than 20 times
- E No.
  - Once tunnel construction activities begin, how likely will it be for you to use the Meadows Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
  - A. It is somewhat likely that I will use the area.
  - B. It is very likely that I will use the area.
  - C. It is somewhat unlikely that I will use the area.
  - D. It is very unlikely that I will use the area.
  - (E.) I am sure that I will not use the area once tunnel construction begins.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?
Prefer not to give contact info: or
Name:
Address:
Phone:
Email:

Survey taker number:	5		5-	14
Hi, my name is am working on this project a boating activities in the Delta during construction of the prowaterFix project. Your responds with me to complete our survivist, I would like to get some	a and to measure any oposed Twin Tunnel onses will only be re	changes in recreation ar Project, sometimes calle ported in aggregate. Car	nd visitation ed the BDCI n you take a	that might occur Por California bout fifteen minute
1. Do you own a boat or do Own: Yes Rent: Yes  If No to both rent and own	No No	t or other type of boat to	go boating	?
2. Which best describes you	ur boat or boats (sele	ct all that apply)?		
A. Cabin cruiser B. Wakeboard boat C. Ski boat Runabout E. Pontoon boat F. House boat G. Day boat H. Jet Boat I. Big Cat J. Performance boat K. Sail boat L. Kayak/Canoe/Other M. Other:				· ·
<ol> <li>Approximately how man</li> <li>A. I do not go boating in</li> <li>B. 1-5</li> <li>C. 6-10</li> </ol>		ou visit the Delta for rec	creational bo	pating?
D. 11–15 E. 15–20 F. More than 20				
If Answer to 3 is A, then	ı end survey.			
4. What recreational boating A. Fishing B. Wake boarding C. Water Skiing D. Cruising E. Visiting waterside ba F. Hunting G. Other		ually undertake (select a	ıll that apply	)?

Э.	recreational activities (circle all that apply)?
	A. West Delta around Antioch Suisun Marsh area  B. North Delta around Rio Vista, Walnut Grove, Steamboat Slough area  C. South Delta around Discovery Bay area  D. Central Delta around Korth's Pirate's Lair, Bethel Island, Franks Tract area  E. Clarksburg, Hood, Walnut Grove, Locke area.  F. Stockton, Windmill Cove area  G. Other
6.	Where do you keep your boat during the summer
(	<ul> <li>A. Away from the Delta in dry storage or at my residence.</li> <li>B. Away from the Delta in a slip in the water</li> <li>C. In the Delta in dry storage or at my residence out of the water</li> <li>D. In the Delta in a slip in the water</li> <li>E) I have a home in the Delta with an attached dock where I keep my boat</li> </ul>
7.	If answer to 6 is A or B, what is the zip code where you keep your boat during summer?
8.	Where do you keep your boat in the off season?  A. Away from the Delta in a slip in the water  B. Away from the Delta in dry storage or at my residence  C. In the Delta in dry storage or at my residence out of the water  D. In the Delta in a slip in the water  E. I have a home in the Delta with an attached dock where I keep my boat
9.	If the answer to 8 is A or B, what is the zip code where you keep your boat during the off season?  94571
	When you visit the Delta, do you make purchases of gas, food and beverages, bait or fishing supplies, or other items from Delta marinas? Circle all that apply.  A. Yes, Gas B. Yes, Food and beverages C. Yes, bait or fishing supplies D. Yes, other items E. No
11.	If answer to 10 is A, B, C, or D, then: Which marina or marinas do you most often make purchases at?
	Name of Marinas: 1) The point
	2)
	3)

12. In the table below is a list of conditions that you might encounter on different sloughs while boating. For each of these conditions, please indicate how they would affect the likelihood that you would do your recreational boating on those sloughs.

Condition	More Likely	No Change	Less Likely
Excellent fishing			
Long or frequent 5			
mph speed zones			5 /
before reaching fast		÷	X
water			, ,
Nearby waterside bars	<i>y</i> .		
and restaurants	×		
Turbid/muddy water	X		
Heavy barge/boat			>
traffic			^
Excellent	$\checkmark$		
birdwatching			
Loud noise (traffic,	· <del>\</del>		
construction, etc.)	· · · · · · · · · · · · · · · · · · ·		
High winds		X	

13. Have you heard about the plan to construct tunnels on the Sacramento River to divert water to the Central Valley farms and Southern California cities?



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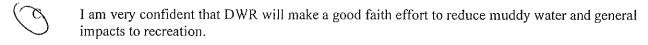
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  - C. Construction vehicles and bridge openings will cause me to use the Delta for recreation much more often.
  - D. Construction vehicles and bridge openings will cause me to use the Delta for recreation somewhat less often.
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- I would be much more likely to visit the Clarksburg Marina. В.
- The construction would not effect the likelihood of me visiting the Clarksburg Marina. C.
- I would be somewhat less likely to visit the Clarksburg Marina. D.
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- I would be much more likely to visit the Hood Supply Company. В.
- The construction would not effect the likelihood of me visiting the Hood Supply Company. C.
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- I would be much less likely to visit the Hood Supply Company.
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- Have you ever visited the Meadows Slough / Upper Snodgrass Slough anchorage area, and if so 22: how often?
- Yes 1-5 times. A.
- Yes 6–10 times В.
- Yes 11–20 times C.
- Yes more than 20 times D.
- E.)
- Once tunnel construction activities begin, how likely will it be for you to use the Meadows 23. Slough / Upper Snodgrass Slough Anchorage area for your boating activities?
- It is somewhat likely that I will use the area. It is very likely that I will use the area.
- It is somewhat unlikely that I will use the area. C.
- It is very unlikely that I will use the area. D. I am sure that I will not use the area once tunnel construction begins. E.

Would it be ok if I get your contact information in case I need to contact you to do a follow up survey if there are changes to the proposed project later?

Prefer not to give contact info:

or

Name: RELLY SACOBSEN

Address: 447 S FRONT

Phone: 707-416-1081

Email: